

I. NOTES ON COSTA RICAN FORMICARIIDÆ.

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While recently going over the Formicariidæ in the collection of the Carnegie Museum, I made several interesting discoveries relating to the Costa Rican material collected by myself in the years from 1902 to 1907. Thinking that perhaps they may be of interest to others working in the same field, I venture to make them known.

Myrmotherula axillaris (Vieillot).

Two males and two females were collected in September and October, 1904, on Sicsola River, in the southeastern part of Talamanca. *Myrmotherula melana* was also taken in the same locality. I believe this to be the first record of the presence of *Myrmotherula axillaris* in Costa Rica, making a total of four species of the genus now known to inhabit that country.

Cercomacra tyrannina crepera (Bangs).

In the Auk for 1901, p. 35, Mr. Bangs describes a new ant-thrush as *Cercomacra crepera*, giving as the type locality Divala, Chiriqui, and states that it is distinguished from *Cercomacra tyrannina* by very much darker coloration throughout. He also states that this form replaces *Cercomacra tyrannina* in Chiriqui and Nicaragua. Later in his article "On a Collection of Birds from Western Costa Rica," Auk, Vol. XXIV, p. 296, he places the form of *Cercomacra*, taken in the Terraba Valley of Costa Rica, under his *crepera*, as *C. tyrannina crepera* (Bangs).

Upon examination of my specimens of this species, I am forced to the conclusion that Mr. Bangs has erred in the determination of his Terraba specimens, and furthermore that there is room for doubt as to the range of *Cercomacra tyrannina crepera* as given by him. I have before me six males and five females from the Pacific slope, distributed as follows:

Bebedéro de Guanacaste, 1 ♂, April, 1906.

Pozo Azul de Pirris, 2 ♀, May and June, 1902.

El Pozo de Terraba, 3 ♂, June, 1907.

Boruca de Térraba, 2 ♂ and 2 ♀, July, 1907.

Buenos Aires de Térraba, 1 ♀, August, 1907.

These skins, with the sole exception of the Bebedero specimen, are identical in coloration and agree exactly with descriptions of the type of *Cercomacra tyrannina* (Sclater).

On the other hand there are 21 skins (7 ♂ and 14 ♀) from various points along the Caribbean watershed from Carrillo to the Lower Rio Sicsola, all agreeing perfectly one with another, with the specimen from Bebedero, and exactly with Mr. Bangs' description of *Cercomacra crepera*! Such obvious facts can point to but one conclusion, namely, that *Cercomacra tyrannina tyrannina* (Sclater) inhabits the Pacific slope from Colombia northward to, and including, the Terraba and Pirris valleys of Costa Rica, while the variety *Cercomacra tyrannina crepera* is the form confined (?) to the Caribbean coast, a parallel to what we have in so many other cases. However, there still remains to be explained the presence of *Cercomacra tyrannina crepera* at Divala, Chiriqui. It is very evident that it has crossed from the Caribbean to the Pacific through the valley of the San Juan, as explained by the Bebedero bird. Could it be possible that such a thing has occurred farther south? If so, it would explain the presence of the Caribbean form at Divala.

***Drymophila stictoptera* Lawrence = *D. læmosticta* Salvin.**

During all my collecting in Costa Rica, covering a period of five years, I have never taken or seen a skin of a male *D. læmosticta*, or a female of *D. stictoptera*, and am forced to the conclusion that the same error has been made and perpetuated in regard to these birds, which was made in the case of *Thamnophilus bridgesi* (Sclater) and *T. punctatus* Cabanis, and which was corrected by Mr. Cherrie (Auk, X, p. 279), who showed that *T. punctatus* was the male of *T. bridgesi*.

The type of *Drymophila læmosticta*, from Tucurriqui, Costa Rica, had no sex indicated, and the only other specimen in existence at the time was a female from Santa Fe de Veragua, both collected by Arcé. The type of *D. stictoptera* is a male, collected at Angostura, Costa Rica, by J. Carmiol. The inference is obvious, and I would therefore reduce *D. stictoptera* to a synonym of *D. læmosticta* Salvin.

Myrmelastes occidentalis (Cherrie) versus **M. exsul
occidentalis** (Cherrie).

In 1891 (Auk, p. 191) Mr. George K. Cherrie described as new a species from the Pacific slope of Costa Rica, calling it *Myrmeciza immaculata occidentalis*. Since this bird could not be reconciled as a subspecies of (*Myrmeciza*) *Myrmelastes immaculatus* (Lafresnaye), it was subsequently given specific rank as *Myrmelastes occidentalis* (Cherrie). The same year (1891) Mr. Cherrie described as new, the Caribbean race of this form, calling it *Myrmeciza intermedia* (Proc. U. S. Nat. Mus., XIV, p. 345) = *Myrmelastes intermedia* (Cherrie).

Mr. Bangs, in his late article, "On a Collection of Birds from Western Costa Rica" (Auk, 1907, p. 296), calls this Pacific form *Myrmelastes exsul occidentalis*. If this bird was not a subspecies of *M. immaculata*, it certainly cannot be referable to *M. exsul*. The simplest way out of the difficulty, and in my judgment the only correct one, is to give *Myrmeciza immaculata occidentalis* Cherrie specific rank as *Myrmelastes occidentalis* (Cherrie), which has been done by most authors, and reduce *Myrmeciza intermedia* Cherrie to subspecific rank as *Myrmelastes occidentalis intermedia* (Cherrie).

Having had occasion to refer the foregoing observations to Mr. Ridgway, I was surprised and gratified to learn that he had already reached similar conclusions, and it is with his knowledge that I now publish them.